



Communicator

Summer 2012

**Field Day
Reflections**

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Our Best Result Ever

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QRM



ve7sar.net



The Monthly Newsletter of the Surrey Amateur Radio Club



The Communicator



**SURREY
AMATEUR RADIO CLUB**

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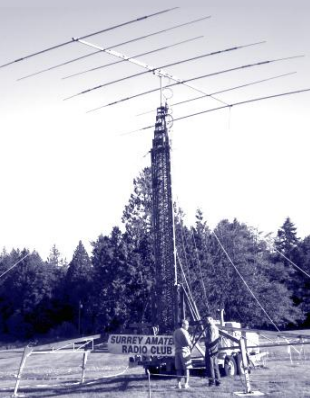
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VIA THE WEB
www.ve7sar.net

The **SARC Communicator** is published monthly for members of the Surrey Amateur Radio Club.

SARC maintains a website at www.ve7sar.net that includes club history, meetings, news and other information.



Annual General Meeting Minutes

Surrey Amateur Radio Club Annual General Meeting June 13, 2012

Held at the Central Training Facility, No. 9 Firehall, Surrey

President John Brodie VA7XB opened the meeting at 1905 hr., declaring that this was the annual general meeting and the last meeting of SARC for the fiscal year.

He noted that only members in good standing can vote on motions and that the newly elected officers start their duties immediately after the AGM. With voting membership currently at 91 and approximately 32 members attending, a quorum was confirmed.

Last year's AGM minutes having been circulated by email, the members were asked for corrections and additions and, none brought forth, a motion was made to accept the 2011 AGM minutes and the motion was approved unanimously.

The meeting agenda was then presented and a motion to accept the agenda was approved.

An audited annual financial report of the Lottery fund account, prepared by Paulette Schouten VE7VPE, was presented by John VA7XB. A motion to approve the financial report was accepted and the motion carried.

Treasurer Scott Hawrelak VE7HA presented the annual financial report, also prepared by Paulette, for the general chequing and savings accounts. A motion to accept the report was accepted and the motion carried. The membership then approved a motion to send Paulette a gift certificate of \$100 in thanks for her capable work on reviewing the books and preparing the financial statements.

After a coffee break, Vice President Bill Gipps VE7XS conducted the election of officers. The current Executive reluctantly accepted the resignation of Secretary Susan Eshelman VE7IIE, who is moving out of town. With all other officers

agreeing to stand for re-election, one additional nomination for Director was made from the floor. After approval of

CLUB EXECUTIVE 2012-2013

PRESIDENT

John Brodie VA7XB

VICE PRESIDENT

Brett Garrett VE7GM

SECRETARY

Vacant

TREASURER

Scott Hawrelak VE7HA

DIRECTORS

Kelvin Hall VA7KPH
(SEPARS)

John Schouten VE7TI
(Communicator Editor
& Net Manager)

George Merchant
VE7QH (Repeaters)

Bill Little VA7ZBL
(Membership)

Bill Gipps VE7XS

Rob Gilchrist VE7CZV

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Field Day

Reflections on a successful event

Tech Talk

BC Hydro Smart Meters

Plus

Meeting Minutes
SEPARS Report
New Improved VE7RSC QRM
Chronicle of a tower Installation
Summer Calendar
President's Report

	SEPARS Net	SARC Net
1 st Tuesday	Drew VA7DRW Jay VE7OFH Standby	Drew VA7DRW
2 nd Tuesday	Dixie VA7DIX Alan VA7BIT Standby	Jinty VA7JMR
3 rd Tuesday	Rob VE7CZV	John VA7XB
4 th Tuesday	Bill VE7XS Dixie VA7DIX Standby	Anton VE7SSD
5 th Tuesday	Jinty VA7JMR	Bill VE7XS
Want a turn at Net Control? Contact the Net Manager ve7ti @ separs.net		

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, (optional Tone Squelch 110.9) also accessible on IRLP node 1980 and Echo-link node 496228. On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 Coming soon, a repeater at 224.000MHz (-1.6MHz).

a motion to have 6 rather than 5 Directors, the following were elected, with only the Secretary position remaining unfilled:

John Brodie VA7XB - President

Brett Garrett VE7GM - Vice President
Scott Hawrelak VE7HA - Treasurer

Kelvin Hall VA7KPH - Director

George Merchant VE7QH - Director

John Schouten VE7TI - Director

Bill Gipps VE7XS - Director

Bill Little VA7ZBL - Director

Rob Gilchrist VE7CZV - Director

Following election of officers, committee reports were made.

- Foxhunt - Anton VE7SSD showed some photographs of the May event, provided names of winners and reported it a success.
- SEPARS - Kelvin VA7KPH described SEPARS activities and the status of the trailer. A motion was made and approved to make a \$100 donation to SEPARS to assist with refurbishing of the trailer.
- Operator Training - Fred VE7IO gave a report on the status of training activities, including the contest planned for mid June.
- Repeater - John VA7XB reported that the new repeater installation is to take place Friday. A motion was approved to send a \$100 gift certificate to Steve Coleman VE7MAN and Dave Cameron VE7LTD as a gesture of thanks for planning and carrying out the installation.
- Communicator - John Schouten requested further contributions of articles, especially personal experiences, for future publication in the Communicator. He reported that 10 issues were sent over the past year, and a Summer issue is in the works. There is space available for any buy & sell items.
- Website - Hiu VE7YXG reported that everything is up to date, and there were no issues with the website.
- Inventory - Anton VE7SSD reported that the inventory list had been updated with the assistance of Susan VE7IIE.

The agenda moved on to announcements.

- John VA7XB announced that raffle tickets are now available and each member is encouraged to take a \$40 book for sale over

the summer. Tickets will be sold at the Langley Cruise-in taking place in September.

- Scott VE7HA will manage ticket distribution until Bill Little VA7ZBL (absent) can take over.
- 2 m Net - after discussion, the membership agreed to continue an informal net over the summer.
- Friday breakfast at the ABC Restaurant - after discussion, the membership agreed this will continue over the summer
- The next meeting of SARC will take place on Sept. 12th .
- Kjeld Frederiksen VE7GP reported on progress of his Danish friends who are sailing through the Northwest Passage this summer, now in Kodiak. He encourage members to contact Kim OZ1MAL on 14.315 MHz around 0300 UTC.

Field Day planning was introduced by John VA7XB, who invited members to attend the FD Orientation meeting on June 14 at No. 9 Firehall. The orientation is being organized by Jim Smith VE7FO. Discussion ensued about the stolen propane tanks for the big tower, with a motion made and carried that replacement tanks, a new regulator and hoses be purchased.

Brett Garrett VE7GM then reviewed the status of FD planning and circulated sign up lists for volunteers.

Following the 50/50 draw, John VA7XB thanked the outgoing Executive for their service during the past year and especially Susan VE7IIE for her outstanding contributions.

At 2130 hr a motion to adjourn was accepted and approved.



DOWN THE LOG...

SARC Monthly Meetings

2nd Wednesday (Sept-Jun)
1900 hrs local at the Emergency
Management BC PREOC,
14275 96th Avenue, Surrey, BC

Weekly Club Breakfast

Friday at 0830 local
ABC Country Restaurant at
600 - 7380 King George Blvd.
Surrey

SARC Net

Tuesday at 2000 hrs local
on 147.360 MHz (+) Tone=110.9

SEPARS Net

Tuesday at 19:30 hrs local
on 147.360 MHz (+) Tone=110.9

Announcements & News

SEPARS Monthly Workshop
Third Thursday, 1900-2130 local
Rm. 214, 13569 - 76th Avenue,
Surrey.

SEPARS Training

Fourth Saturday, 0830 local,
Firehall #1, 88 & 132nd Street,
Surrey

On the Web ve7sar.net

Between newsletters, watch
your e-mail for announcements
of events, monthly meetings
and training opportunities.
These announcements Summer
also be found on our web page.

Twitter
@ve7sar

Photos
Web Albums

Field Day Reflections

2012: Our Best Result Ever!



Man, what a great Field Day! Thanks to everyone who pitched in to make it such a success. While the operators seem to have the highest profile, they couldn't do a thing without all the work and effort put in by everyone else. I've prepared a number of graphs and tables which show how we did and which should help identify opportunities for improvement for next year. The graphs were generated by a program called Athena and the tables were generated by N1MM.

ATHENA GRAPHS

INTRODUCTION

Athena will plot graphs showing, on an hour by hour basis, QSO's, QSO Points, Multipliers (multipliers not applicable for FD) and Total Score (Points X Mults - but just Points for FD). It will do this for individual bands and for all bands combined. It will show the contribution of each op. It will allow you to overlay last (or any other) year's hourly totals for comparison purposes.

See the graph [right] labeled FD ALL BANDS TOTAL-QSOs showing QSOs per hour and Total QSO count.

The horizontal axis is UTC (GMT) date and time. Remember that 1800Z is 11 am here.

The vertical bars show how many QSOs were made during each hour. There's a bit of a glitch here in that the vertical bars should all move to the right by 1/2 hour. They are colour coded to show the contribution of each op during each hour.

Left Axis

The scale for the vertical bars.

Red Trend Line

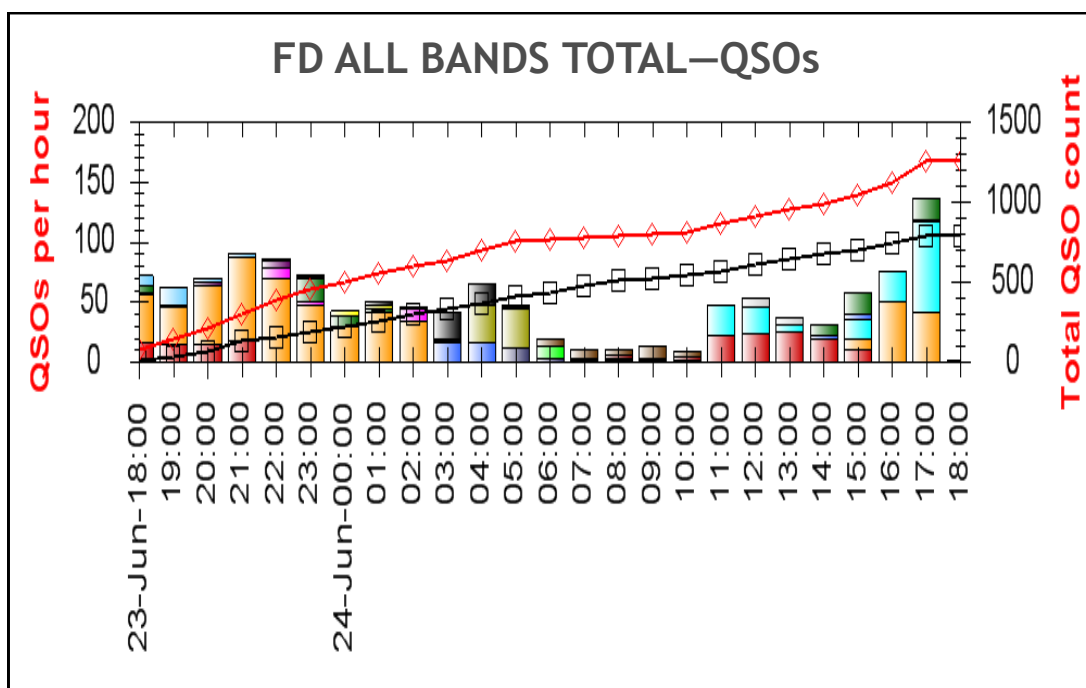
Shows, for each hour, the accumulated total QSOs to date. The total is updated more frequently than this. In our case, we set it to update every two minutes.

Black Trend Line

Athena can display the data from a previous contest as a black line. Like the Red line, it shows, for each hour, the accumulated total QSOs for VE7LSY FD 2011. It's a great motivator as the ops can see how their current effort compares to previous results.

Right Axis

The scale for the trend lines.



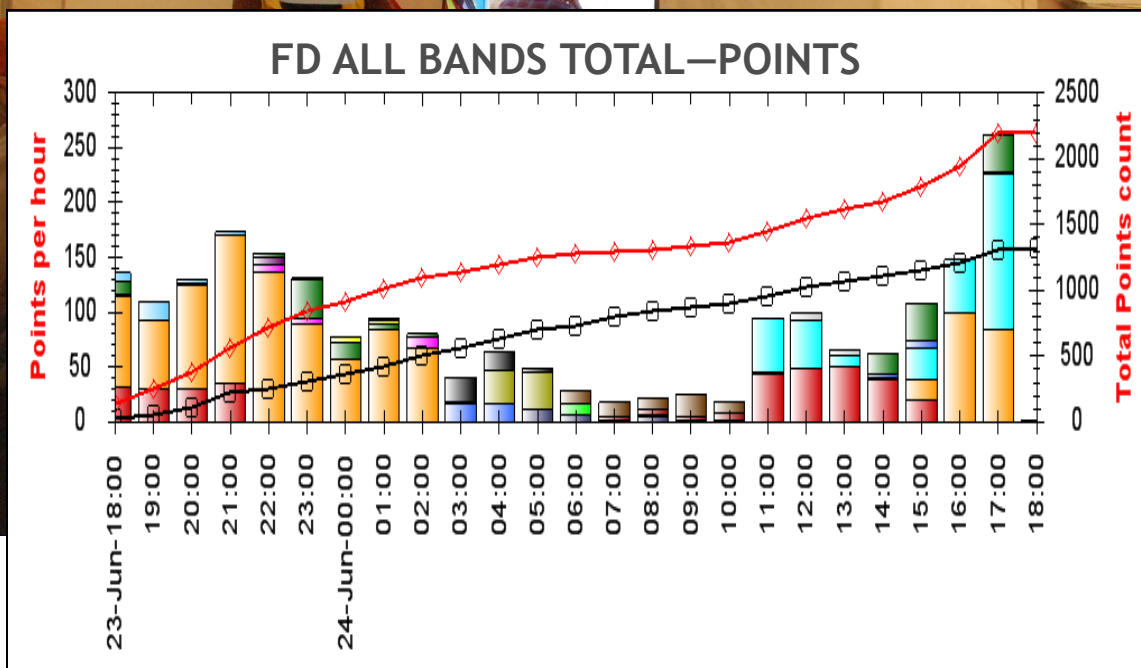
GRAPH DETAILS

Looking first at the trend lines we see that, right from the start, we did much better than last year.

While it's a little hard to make out, the leftmost bar shows that in the first hour XB made about 18 Qs, ACN made about 40, IO made about 6 and TI made about 8 for an hourly total of about 72 Qs, reading the values from the Points per hour scale on the left.

Overall, it looks like the op training was worthwhile.

Now, what about points? Remember that while SSB contacts count one point each, CW and Digi count two.



INTERPRETING THE GRAPHS

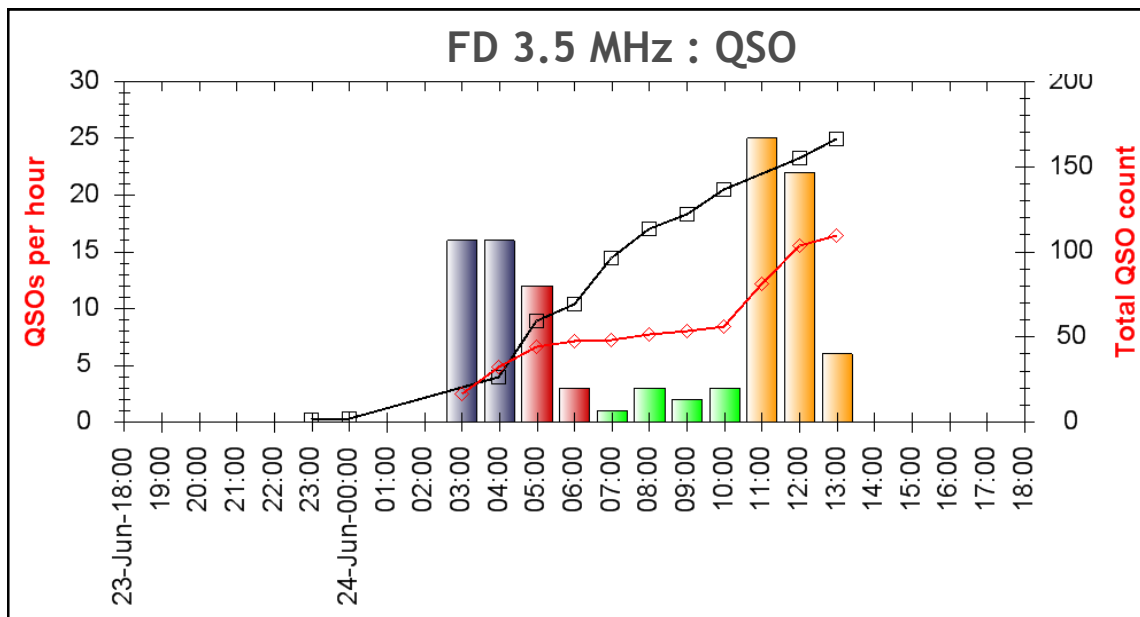
Have a look at the graph [above] labeled FD ALL BANDS TOTAL-POINTS showing Points per Hour and Total Points Count. Wow! A 70% improvement over last year. Unfortunately, Athena won't break things down by mode so no graphs of CW vs Digi vs SSB.

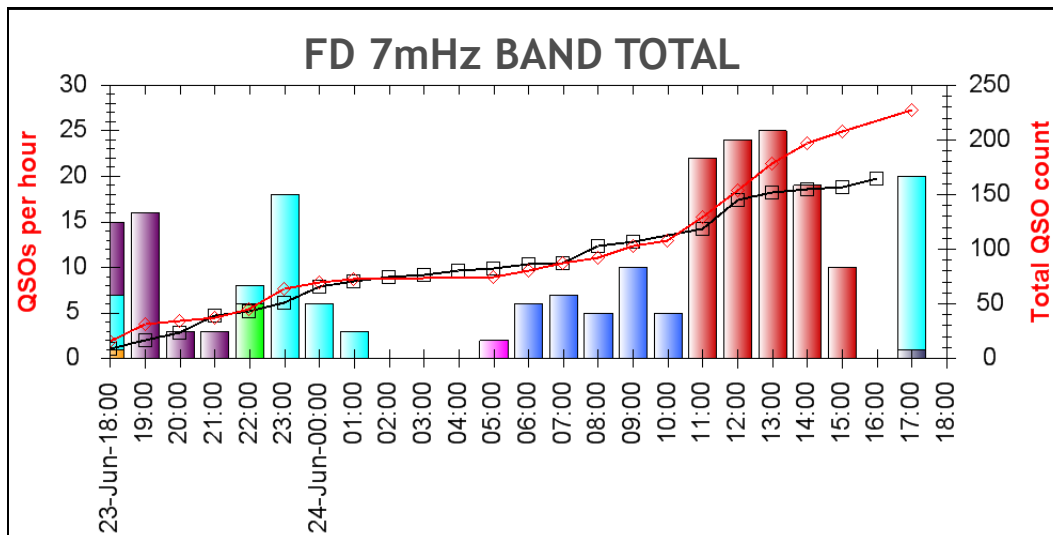
Now let's look at some individual bands to see what they look like. We'll only look at QSO graphs as there's only so much room in the Communicator.

Have a look at the graph labeled FD 3.5 MHz : QSO [right]. First of all, it's a lot easier to see the contributions of the individual ops. Looks like band is open for 11 hours

Well, it's actually open for much longer but there's no one there to talk to. The only band we did worse on than last year. A 60 Q deficit. Last year we had a Vee Beam. This year we had a dipole. Hmm... Not sure what

happened between 0700 and 1100 except that maybe there weren't any SSB Qs to be made. I do know that we made some PSK Qs during this time.





pretty much identical to 2011 up to 1100Z and then we took off.

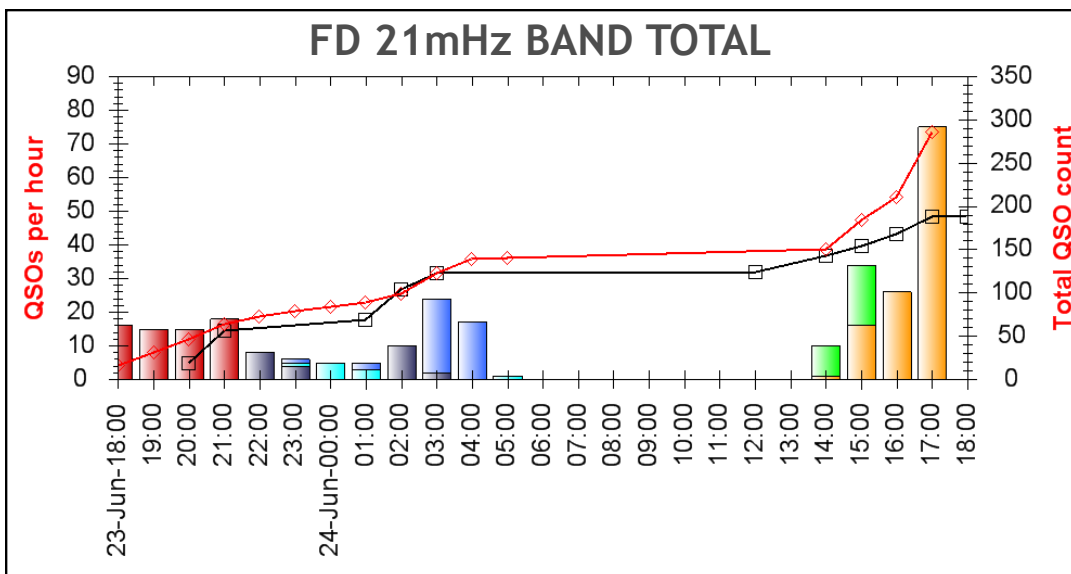
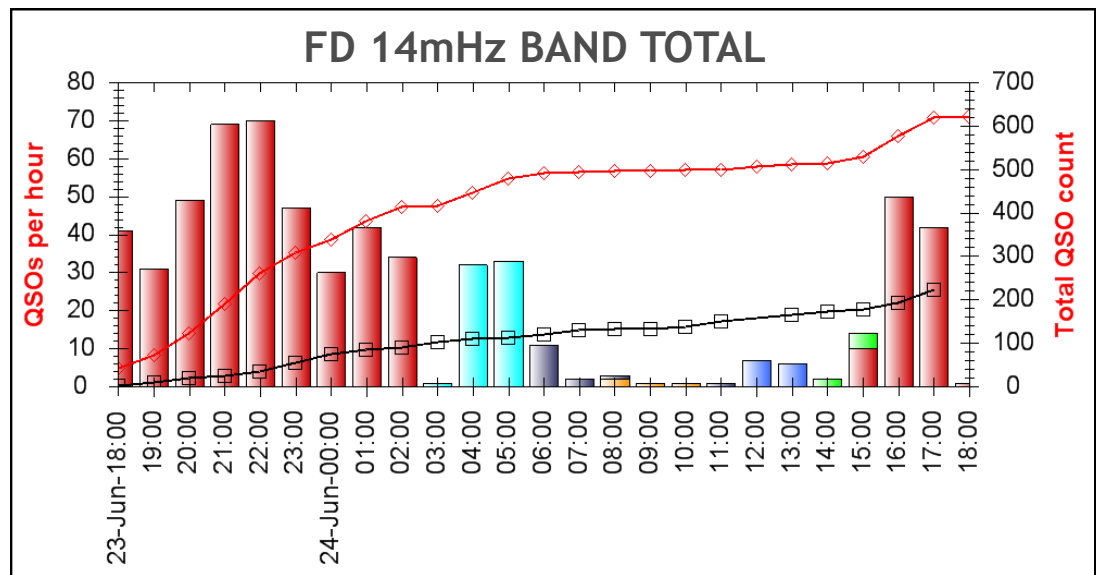
Last year we had the Vee beam. This year we had a 40m yagi up 70 ft. As our ops had much improved skills this year one would expect that this year's trend line would be consistently higher than last year's. It wasn't. This could mean that the Vee outperformed the yagi,

OK, have a look at FD 7 MHz/40m [above]. Band looks to be open for 21 hrs, rates aren't very high. 2012 trend line

assuming that propagation conditions were the same. This hasn't been checked yet.

Next up is FD 14 MHz/20m [right]

This is how it looks when you have a top-notch operator. The band is open for 24 hrs, 7 of them rather marginal.



FD 21 MHz/15m

Looks like propagation wasn't too good for most of the time.

Band is open (sort of) for 15 hours.

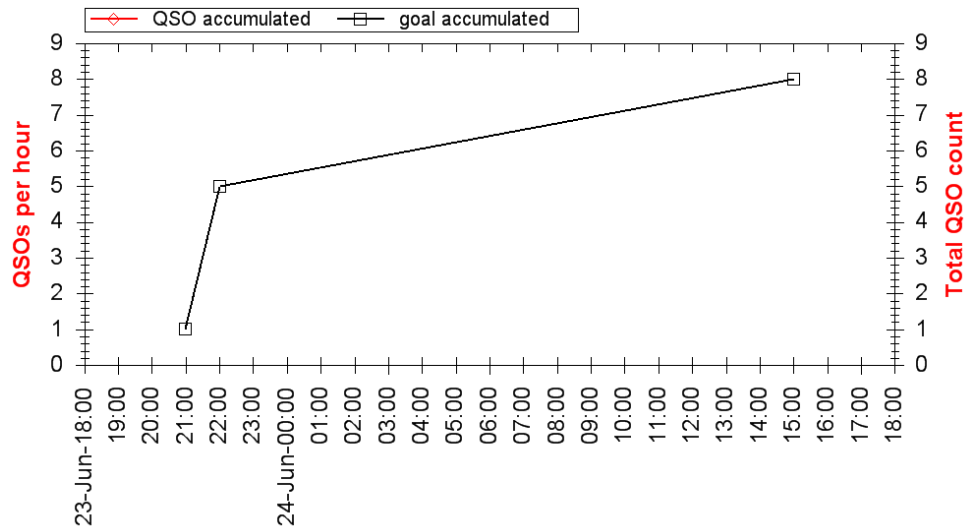
A pretty thrilling last hour.



FD 28mHz BAND TOTAL

FD 28 MHz/10m

Ooohhh... Yuck



FD 50 MHz/6m

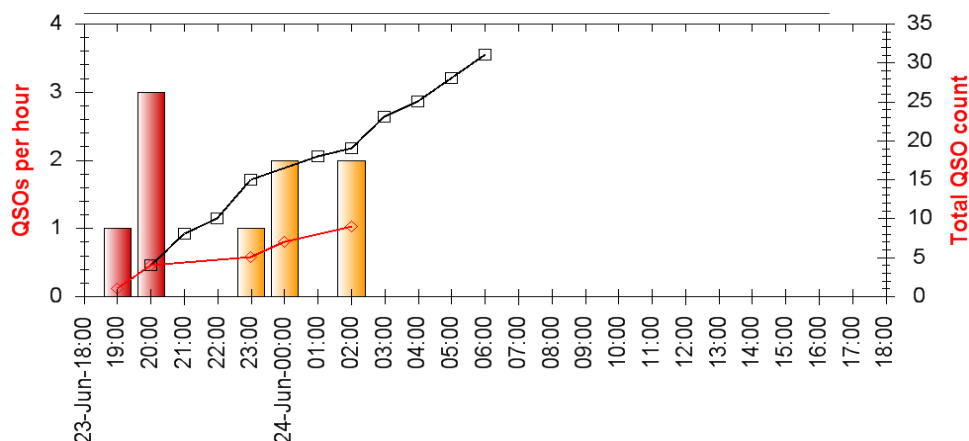
Pretty slow.

You never know with 6m

It can provide QSOs much faster than newbies can log them.



FD 50mHz BAND TOTAL

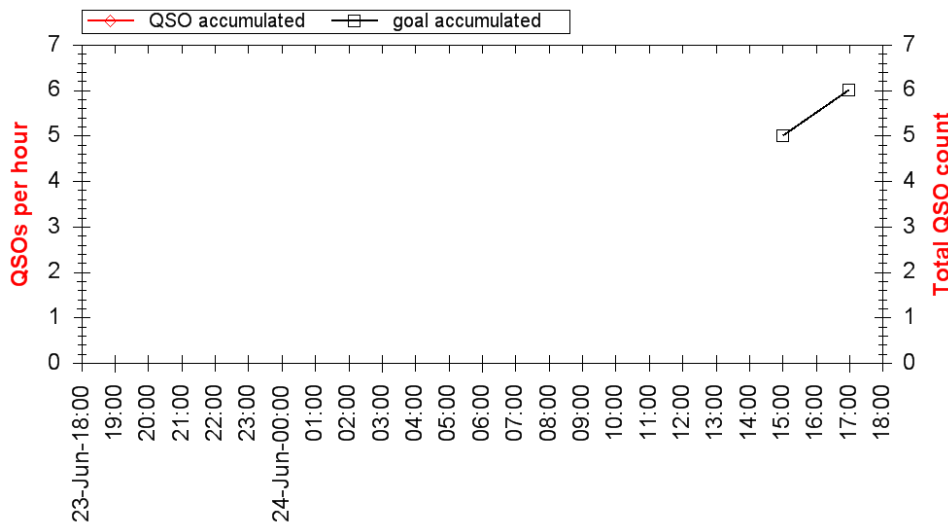


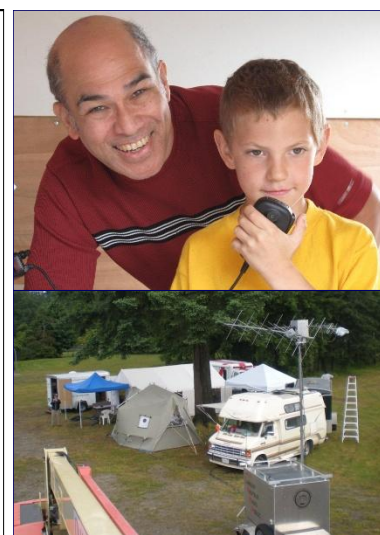
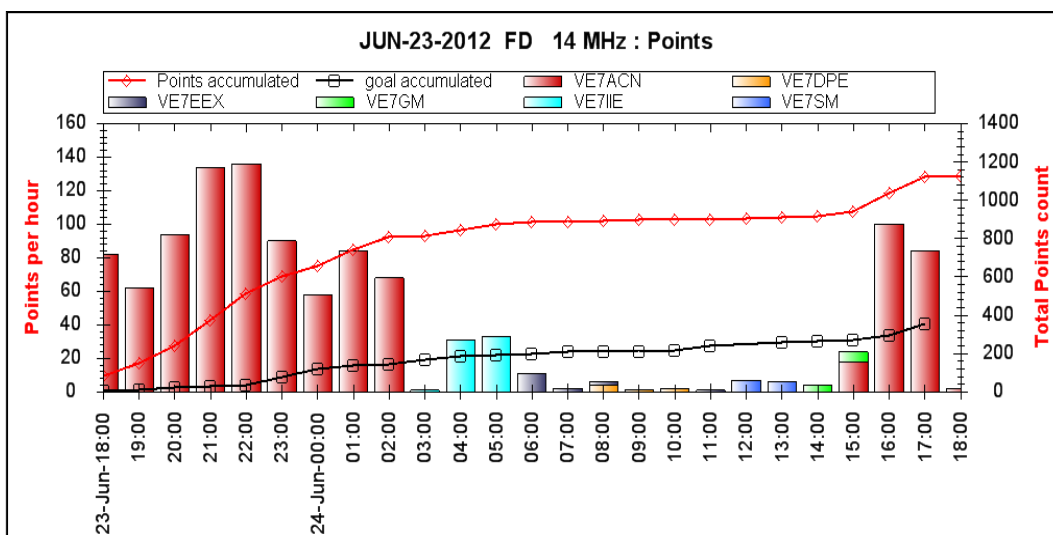
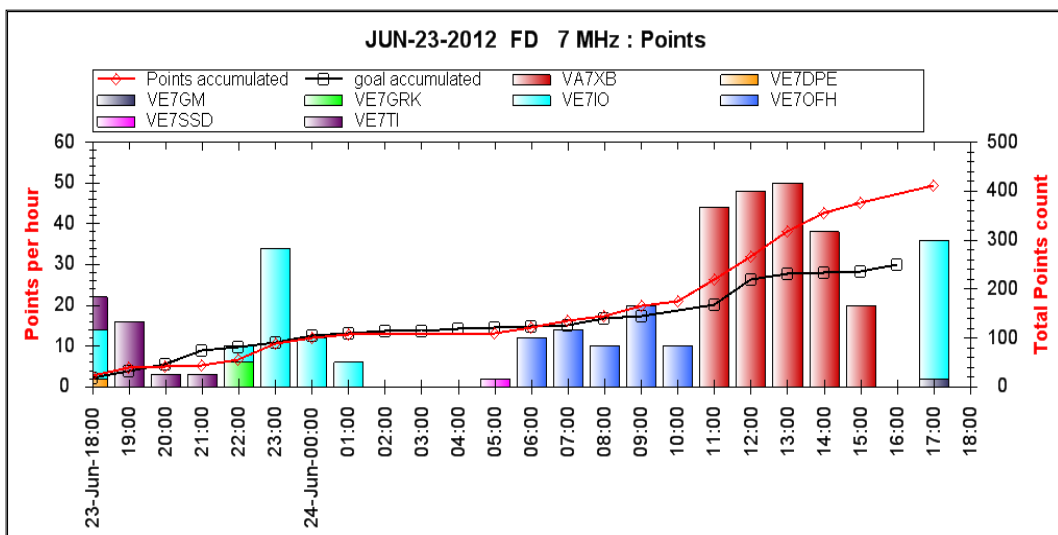
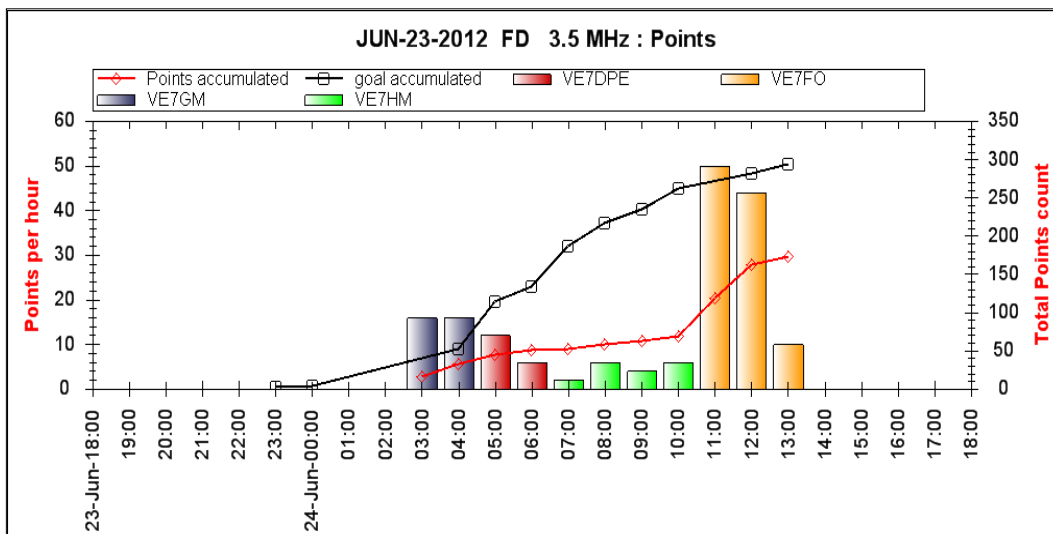
FD 144mHz BAND TOTAL

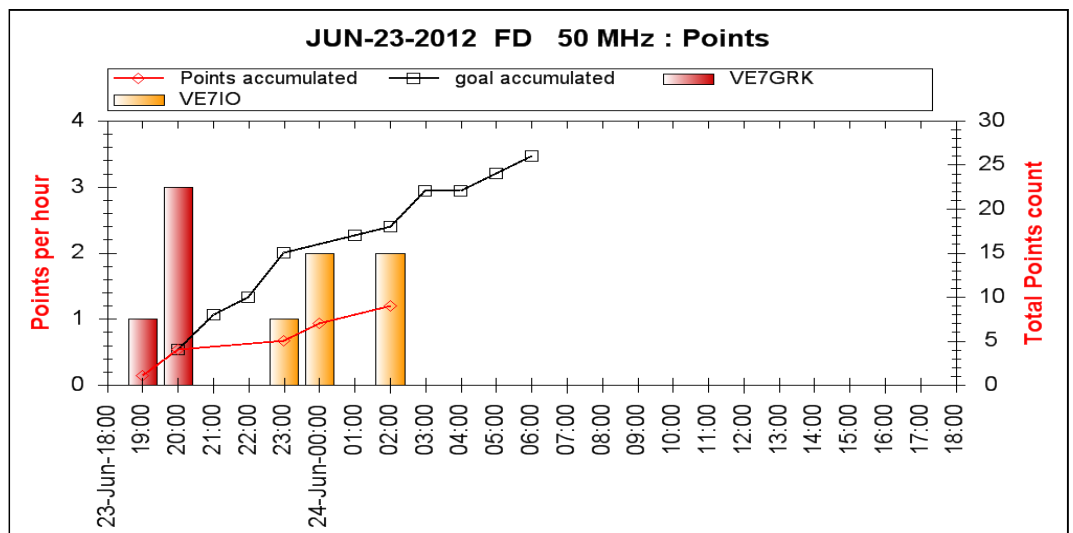
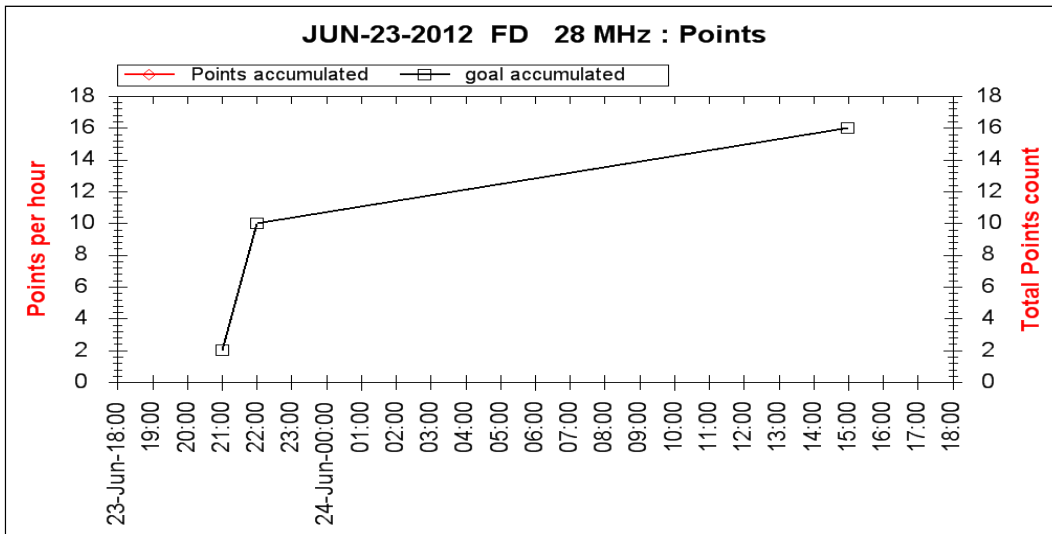
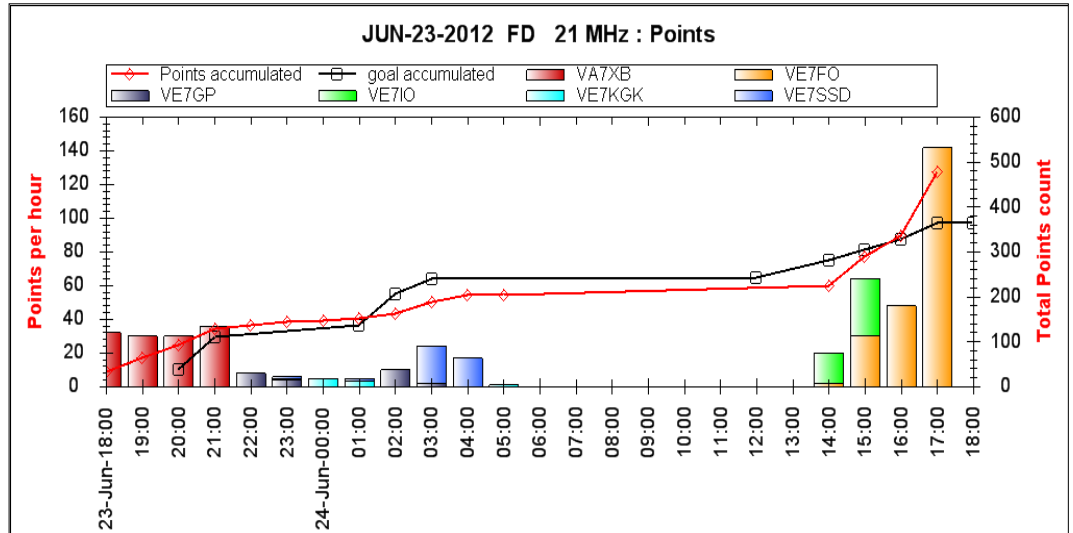
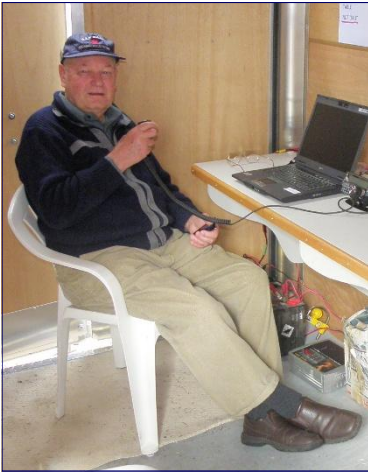
FD 144 MHz/2m

We have to do better here.

There must be a number of FM simplex Qs we could have made.







N1MM TABLES

INTRODUCTION

N1MM will generate tables showing an amazingly large number of items two at a time. For example, the Op by Hour table will have 24 rows, one for each hour and a column for each op. The body of the table will show how many Qs each op made during each hour.

OP BY HOUR

For each hour it tells you:

How many Q's were made by each operator during that hour.

Total number of Qs made during that hour.

Total number of Qs made by that operator.

Number of Qs accumulated by the end of that hour.

This report is the one which best describes the operators' performance. You have to remember that low numbers don't necessarily mean an unskilled op. You have to take band conditions into account.

MODE-BAND BY HOUR

For each hour it tells you:

How many Q's were made on each mode/band during that hour.

Total number of Qs made during that hour.

Number of Qs accumulated by the end of that hour.

Total number of Qs made on each band/mode.

This is very helpful in showing areas we might want to pay more attention to next time - such as Digi

RADIO NUMBER BY HOUR

For each hour it tells you:

How many Q's were made by each op position during that hour.

Total number of Qs made during that hour.

Total number of Qs made by each op position.

Number of Qs accumulated by the end of that hour. This report is the one which best shows the degree of utilization of the op positions.

Hmmm...

2 hrs 0 HF Qs

5 hrs 1 HF Qs

3 hrs 2 HF Qs

9 hrs 3 HF Qs

An average of 1 Q every 30 minutes over a period of 19 hours.

So, next year we look at these and try to figure out how to improve this. It may be, of course, that it was a propagation issue. This can be checked using the Reverse Beacon Network spots.

MODE BY OPERATOR

For each op it tells you:

Which modes he used.

How many Q's he made on each mode

Total number of Qs he made.

Total number of Qs made on each mode.

This report is the one to use if you want to know which modes each op used.

BAND BY SECTION

For each RAC/ARRL Section it tells you:

How many Q's were made with that Section on each band.

Total number of Qs made with that Section.

Total number of Qs made on each band.

This report is the one which best shows our HF coverage of Canada and USA.

We worked 77 out of 80 Sections

We worked every Province except Sask and Nfld.

We worked every State

Not too shabby.

CONCLUSION

I hope you found these statistics to be of interest. They will certainly assist us in planning for next year.

~ Jim Smith VE7FO

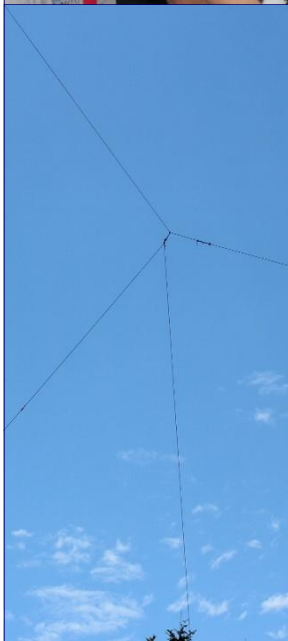


There are many credits for our Field Day success this year but special mention here to Jim for his relentless goal to get us trained and for his detailed analysis of how we could improve, and what we can do to achieve an even higher score next year—Thanks Jim

-Ed



FD 2012



The SARC/LARA/SEPARS team, operating as VE7LSY, did well at Field Day.

Our submitted points were as follows:

Total points: 2193 QSO points x 2 (for low power) + 1150 Bonus = 5536 total compared with 3720 last year.

By comparison, the top VE7 score (VE7SCC) had 4648 in 2011.

In 2011 top five VE total scores in our category

VE7SCC	4648
VE3RL	3976
VE7LSY	3720
VE3SAR	3452
VE3RAM	3064

Well done everyone. We will have to wait and see how this compares with other scores.

~ John VA7XB





The Contest Contender

Fred Orsetti VE7IO & Jim Smith VE7FO

Field Day 2012

Field Day 2012 was the most successful field day in a number of years for our clubs. There are, of course, many ways to measure success but the most obvious one is based on the final score. This year the score achieved was a very significant improvement over 2011 and 2010 so how did this come about?

Late in 2011 a suggestion was put forward that SARC, SEPAR conduct an organized training program with the objective being to achieve a better score in Field Day 2012. It was determined that we would use scheduled contests such as the QSO parties and major contests such as CQ and ARRL. Contests that were selected were CW, SSB and RTTY in order to give the trainees a broad enough base to feel comfortable with N1MM, the logging software.

Each training session began with excellent documentation presented by Jim, VE7FO, which went through the basics of N1MM and how to use search and pounce as well as the running modes. The documentation served as the training document as well as a reference document during on the air activities. The schedule of training progressed at a steady pace, always cognizant of the trainee skill level. When the trainee was able to operate in the running mode she was ready for field day. Happily there were several of our operators who became comfortable in the running mode some with CW some with SSB.

For more details on the training see the QST writeup in the extended online version of 2012 ARRL International DX Contest - CW Results.

<http://www.arrl.org/files/file/ContestResults/2012/2012-DXCW-Web-V3.pdf>

The portion dealing with our training starts on page 15. If you were a trainer or trainee your photo may be there.

There's a reference to this in the Aug 2012 print version of QST at the bottom of page 81 if you aren't able to find it.

Operator training was one factor amongst many that made this year's field day a success. Planning certainly was a major factor along with the many volunteer hours preparing for the big day making the start up smooth with all 3 radios on the air at 1800Z. This was a great feeling.

Support from the Langley club with the man lift and porta-potty's were major contributions. As with any successful outing plenty of good food is required and Susan and her crew had lots and lots of good dishes which certainly kept our energy level up. Despite the heavy rains on Friday and Saturday the dedicated hams who were focused on making field day a success kept working to get the antennas and operating tent up. Generators were running, power was on, the big tent provided a great shelter from the downpour and the work went on to completion.

This year there was a conscious decision to focus on the 2 point contacts for CW, RTTY and PSK31 which proved to be the right choice. Our score mainly improved by making over 950 Q's on CW plus RTTY and even a few PSK31. There were also good rates achieved by the SSB operators which rounded out the score.

We were very fortunate to have 5 CW ops this year as opposed to two last year. Some clubs don't have any. There were only 3 hours out of the 24 when there wasn't at least one op "pounding the key" and driving the points up. Our CW and Digi ops averaged 40 contacts per hour over the 24 hour period.

Our best CW hour was the very last hour of the contest when we had CW ops on 40, 20 and 15m who generated a total of 131 contacts, slightly better than 2 per minute.

Our worst 4 hours (Local) for all modes were 0000, 0100, 0200 and 0300 with, respectively, 10, 11, 13 and 9 contacts. Our best 4 hours were 1400, 1500, 0900 and 1000 with, respectively, 88, 84, 74 and 132 contacts. See elsewhere in this issue for additional statistics on our performance, along with comparisons to last year.

This year we did a much better job of ensuring that every HF op position was manned at all times. Last year there were a total of 13 hours during which at least one op position had no operator. This year, there were a total of 2. Last year we had no one in charge of the station. This year we had a Station Manager on duty at all times.

One of the measures of the effectiveness of an HF station is its coverage. From an Emcomm perspective the question comes down to how far you can reach in Canada and the U.S. We worked most Canadian Provinces and ALL U.S. States.

This year's field day was recognized by our elected officials and the Emergency Planner who asked to have photos and stats that support our emergency

communications program. Dan Barnscher, the Emergency Planner, was very impressed with our setup and our ability to provide complete communications.

Having the served agencies on site, such as the RCMP and BC Ambulance, went a long way to having amateur radio recognized by the cities of Surrey and Langley to say nothing of the extra bonus points we could claim.

Personally I have not experienced a field day of this quality since way back in the late 70's and early 80's when SARC was number one in Canada for several years. Thanks everyone who contributed their time and energy before, during and after the field day event - it was very

rewarding. Being involved in the pre field day training it was awesome to see the operators sit down and quickly get into a comfortable running mode compared to previous years watching operators struggle with the logging software.

Dave Easingwood, VE7DPE, and I sent the score into ARRL and followed up with support documentation by regular mail. Now we wait until December to find out how we did with relationship to the rest of our Country. I'm sure we will be in first place in our category.

~ Fred VE7IO

~ Jim VE7FO





More photos online...

<http://picasaweb.google.com/116731869061969537370/FD2012>

Thanks to our Field Day photographers Hiu, Kapila, John, and Anton for your contributions. We also have some great clips for a planned Field Day video.







SEPARS Report Kelvin Hall VA7KPH



SEPAR Meetings

Third Thursday of each month starting at 1900 hrs

Fourth Saturday of each month starting at 0900 hrs

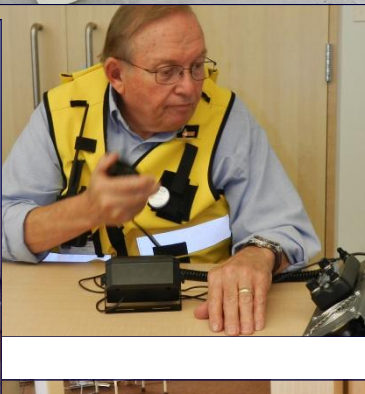
Location and event schedule can be found at
separ.shutterfly.com—click on the calendar tab



CANADA DAY



City Centre Library





The new SARC Executive was elected at our 2012 Annual General Meeting

Above from L to R:

Scott Hawrelak VE7HA - Treasurer

Brett Garrett VE7GM - Vice President

Rob Gilchrist VE7CZV - Director

Kelvin Hall VA7KPH - Director

John Brodie VA7XB - President

George Merchant VE7QH - Director

John Schouten VE7TI - Director

Missing:

Bill Gipps VE7XS and Bill Little VA7ZBL - Directors

Ham Radio for the Visually-Impaired

Many people have asked me “How can a blind person interact with the radios in the Grab and Go kits that we use at Field Day?”

I use a paperless Braille display, which allows me to read the data from my computer quietly, without speech output. The information gets to the computer in the same way that it does when you use the CAT connection to the radio. My Braille display uses a USB connection to transfer data between the computer, and the display.

Once information is on the computer, the program which I use to transfer information from the screen to my Paperless Braille Display called JAWS does the rest. With this system, I can log, operate the radio including change bands and read the frequency, etc. That is the nuts and bolts of the system I use to access the radios



and other computer programs like the email program that allow me to communicate electronically.

~ Rob Gilchrist

Next SARC Meeting

Wednesday, September 12 at 1900 hrs
at the Emergency Management BC PREOC
14275 96th Avenue, Surrey

VE7RSC



SARC Members...

The day we have been anticipating for over 2 years has finally arrived.

Thanks to Steve Coleman VE7MAN and Dave Cameron VE7LTD, who put in most of the day installing our new repeaters, both 2m and 440 MHz including IRLP and Echolink are now working at Concord Pacific. Andy Lo of Surrey Fire, Kelvin Hall VA7KPH and John Brodie VA7XB "assisted".

What we now have is a first-class installation at the top of the 36 storey Concord Pacific high rise in Central Surrey.

The Sinclair antennas are pointed southeast but the pattern is roughly omni-directional, so we should see good propagation in all compass directions.

So if you want to test the new 2m repeater, go to 147.360 MHz + with a tone of 110.9, and if you want to test 440 MHz, go to 443.775+ with a tone of 110.9.





QRM ...from the Editor's shack

*Do you have a photo or bit of club news to share?
Something to sell or something you are looking for?
Email it to ve7ti@separ.net for inclusion in this column.*

Cruise-in and Raffle

This year the SARC Executive elected to forego the summer flea market as its main fund raising event and instead join with Langley ARA at the September "Cruise-in" on Saturday Sept. 8th. How are we going to make money, you ask? By selling raffle tickets for a draw to be held the same day. First prizes is a \$500 gift certificate usable at any Fairmont Hotel; 2nd prize is an Amazon Kindle eReader (value \$150) and 3rd & 4th Prizes are Bluetooth ear buds (value \$75).

We need your assistance by selling raffle tickets in advance of the event. Nearly \$1000 has been invested in prizes and therefore we must sell a lot of tickets to recoup this expenditure. What we do not sell in advance, we must sell on the day of the draw. Without an aggressive sales program, we risk losing money. So please, give me a call (604-591-1825) and request a book of tickets. You can pay for tickets in advance or before the draw, as you wish. Each book contains 20 tickets and, at \$2/ticket, a complete book sells for \$40. They also make ideal gifts for relatives and friends.

At the event itself, we need several "aggressive" sellers to "man" the booth, which will be shared by SARC and LARA. It is not necessary to be a club member to assist in this way...family members are welcome, especially if they enjoy talking to the public and don't mind approaching strangers to purchase a ticket or two for a worthwhile cause. We will have club banner and promotional information available at the booth with the hope that we may recruit new members and promote the hobby.

If you are willing to a) take a book of raffle tickets and sell them over the summer, and/or b) assist at the Cruise-in, please call (604-591-1825) or email (va7xb@rac.ca) me as we cannot do this without your assistance.

Delta Amateur Radio Society's Basic Amateur Radio Course

Starting November 6, 2012, fee is \$65 with an early bird special of \$50 if paid prior to Oct. 27, 2012. Full details at: www.deltaamateurradio.com and look for the course link at the top.

OZ1MAL Update

A translated report from OZ1MAL in Alaska.

They have left Kodiak a couple times, but ran in to real rough weather and their share of problems. They lost their anchor mooring and anchor. They had water in the boat, the water pumps quit, and they had to bail water out by hand.

They had a very small sail up heading back to Kodiak, but at very high speed, and when they finally got to calmer water and got the motor running, the propeller hit something and did some damage. When they finally got to Kodiak, the boat had to come out of the water for propeller repair.

Apparently now they are back in the water and sailing again. According to a recent email they are doing fine, and still determined to complete the trip. The next stop is Nome, where they expect to have an Internet connection. They now have a lot less \$\$\$ in the bank.

I hope you will listen for them on 14,315 kHz and up. Kim and I have gone to 14,317, since there was lots of QRM. I can report that the few contacts I have had with Kim were good.

~ Kjeld VE7GP ve7gp@telus.net

The 2012 Celebration of Light

This year the event does take place on July 28, August 1 and August 4th. VECTOR does have a significant role in this event, and we would like to keep the tradition going.

We are going to require a large number of operators on each night, this year, we are making some very significant changes. We will no longer have access to the Coast Guard Station, (all of the land operations have been moved out of the building). We are currently looking for a new place to have an Incident Command Post that the stake holders that we are involved with would agree to use. If you are available for any or all of these nights, send me an email at jforsyth@vectorradio.ca. Tell me the nights that you are available, if you have a favourite position or side of the beach.



Tech Talk BC Hydro Smart Meters

What You Want To Know



Radio transmissions frequencies

BC Hydro's smart meters have two on-board radios - a field area network radio and a home area network radio. The field area network radio operates in the 900MHz Industrial, Scientific, and Medical band using Itron's own protocol. The home area network radio is disabled by default and operates in the 2.4GHz Industrial, Scientific, and Medical band. The protocol used for the home area network is Zigbee. The radio frequency profile we refer to is with the Zigbee chip turned off and completely radio silent.

Transmission power

Smart meter radios communicate using a very low power signal - less than 2 microwatts/cm² when standing 20 centimetres (standard of measurement) from the meter. This is 50% less than the precautionary limits set for schools and hospitals by Switzerland, the country with the most rigorous standards in the world.

Transmission times (per day)

BC Hydro's smart meters transmit for less than a minute per day in total. This includes coordination messages sent approximately every 30 minutes and also unscheduled event messages - for example to alert BC Hydro of outages.

Network topology

Smart meters are equipped with two-way communication module that can transmit and receive information. They communicate using a localized mesh network and are serviced by a collector mounted on utility poles 18 to 24 feet above ground. The collectors relay information back to BC Hydro using a secondary communication module based on locally available telecommunication infrastructure - ADSL, cellular, satellite or WiMAX.



Effective Isotropically Radiated Power (EIRP)

The RFLAN radio that operates at 902 to 928MHz has an Effective Isotropically Radiated Power (EIRP) that is roughly 1 watt or 30dBm. This is from a transmitter power of 28dBm (631mW) with an antenna gain of 2dB (1.58 times).

The Zigbee radio that operates at 2.4GHz, completely turned off by default and only turned on when customer request via a phone call, has an Effective Isotropically Radiated Power (EIRP) is roughly 200mW or 20dBm. This is from a transmitter power of 18.94dBm (78.34mW) with an antenna gain of 3.8dB (2.399 times).

Power outage detection:

There is a very small capacitor inside the meter that stores sufficient energy for the 1 watt radio to send a short notice to nearby meters when a power outage is detected.

Smart meters will send a "last gasp" signal when the power goes out and a "first breath" signal once the power has been restored. Identifying trouble spots quicker, including the extent of an outage and its exact location, will enable electricity to be restored more quickly.

BC Hydro has configured their meters to transmit consumption information three times per day and issue coordination signals only every half hour - required to keep the network whole. There are other reasons why a meter may send a message such as outage notification, but these are infrequent.

Reactive power (kvarh) measurement:

While the new meters do measure reactive power (kvarh), the current rate structure will remain the same. Only commercial and industrial customers are charged for Power Factor based on kvarh and is not being used for residential customers.

All residential smart meters measure seven metrics - active power consumed in kWh, active power generated in kWh, the reactive power consumed in kvarh, the reactive power generated in kvarh, maximum power demand in W, instantaneous voltage (V), and instantaneous power (W). This information will be used to help better manage the amount and quality of electricity delivered but will not be used for billing purposes.

~Reprinted Courtesy of the NSARC

Chronicle of a Tower Installation

The original plan was to document my experience with a planned tower installation at the new QTH, starting with first encounter at Surrey Municipal Hall, continuing with preparations on the ground, then concluding with the actual tower erection. This journey started 6 months ago shortly after I had moved into my new abode, when I made inquiries about the procedure for erecting a tower and beam. My application for a building permit was refused by Surrey. Because of some legal sensitivities, I am going to defer my discussion of further developments with the municipality, and simply say that the installation is now going ahead - the bureaucratic hurdles to be reported at a later date.

Major physical problems to be resolved:

- 1) how to actually dig the hole since a machine cannot (legally) get access to the back yard;
- 2) where to dispose of the large volume of soil that will be removed;
- 3) how to get ready-mix concrete from the street into the hole, once completed, or alternatively should I make up my own concrete?

Last week I confirmed the location of the proposed tower and began digging the hole. Chief amongst my concerns was the need to have the tower sufficient offset from the property line so that the beam will not hang over my neighbour's property. In addition, because my lot is heavily treed, I needed to spot it where branches will not interfere now or later.

Soils in this area of Surrey are comprised of dense glacial till, which typically contain a random mixture of clay, sand, stones and boulders. The good news is that such soils being stiff and difficult to erode, can often be excavated without slumping or over excavation, which means vertical walls on the excavation. The bad news is that they make for difficult digging... my situation exactly.

The US Tower design calls for an excavation 4.5 ft square, 6.5 ft deep, with a re-bar cage imbedded in about 5 cu.yd of concrete. I elected to dig the hole by hand - I may come to regret this decision. Here is my log of progress so far:

Day 1: marked out the location of the excavation, removed the sod and 6 inches of topsoil. Continued down another 6" for an overall depth of 12 in. Not bad for the first day.

Day 2: Encountering stones embedded in clay which could only be dislodged with a steel bar or mattock. Got down another 6".

Day 3: The stones and clay are so difficult to penetrate that only slow progress with hand tools is possible. Removed another 6" with the greatest of difficulty. I am now down to 2 ft depth. Mercy!

Day 4: Encountered a small area of soft sand, which was easily removed. The remaining 2/3 of the hole bottom is covered with a hard layer that appears to be rock! Is this a buried boulder? I exposed this layer to allow deployment of more aggressive techniques.

Day 5: Rented a jackhammer and, to my great relief, found that the feared rock is actually cemented clay containing weathered rock which can be broken loose. After half a day with the jackhammer and shovel, the hole is now 3 ft. deep. From here on it gets difficult to pitch the soil out of the hole into a wheelbarrow with a shovel, so I may have to use a bucket, rope and pulley.

Stay tuned for further progress.

~ John Brodie VA7XB





RAC News Radio Amateurs of Canada

New ARES merchandise now available at the RAC Online Store - Cafepress*

Following a review of how we distribute ARES merchandise, and to whom, I am very happy to advise that there are now many new items available through the RAC Online Store - Cafepress. Why not have a look at http://www.cafepress.rac/ca_radio.

Items that fall under the heading "credentials or identification" will only be available from the Chief Field Services Officer. In making this announcement I would like to acknowledge the work of our Office Coordinator Frank at our HQ in Ottawa in having this merchandise designed and added to our store. Thanks Frank!

60 metre news 2012-06-22

Industry Canada has been prompt to post the 47 comments to the 60 metre consultation

<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10418.html>

RAC's submission to IC can be found at:

[http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-010-12-rac-comments.pdf/\\$FILE/smse-010-12-rac-comments.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-010-12-rac-comments.pdf/$FILE/smse-010-12-rac-comments.pdf)

Norm Rashleigh, VE3LC
RAC- RABC Representative Officer

More QRM

Continued from page 19

ComFest 2012

ComFest 2012, sponsored by the Delta Amateur Radio Society, is being held September 30. We are now accepting table reservations. All info can be found at www.deltaamateurradio.com and look on the top menu.

Thanks in Advance for your help.

~ Gord VE7FKY

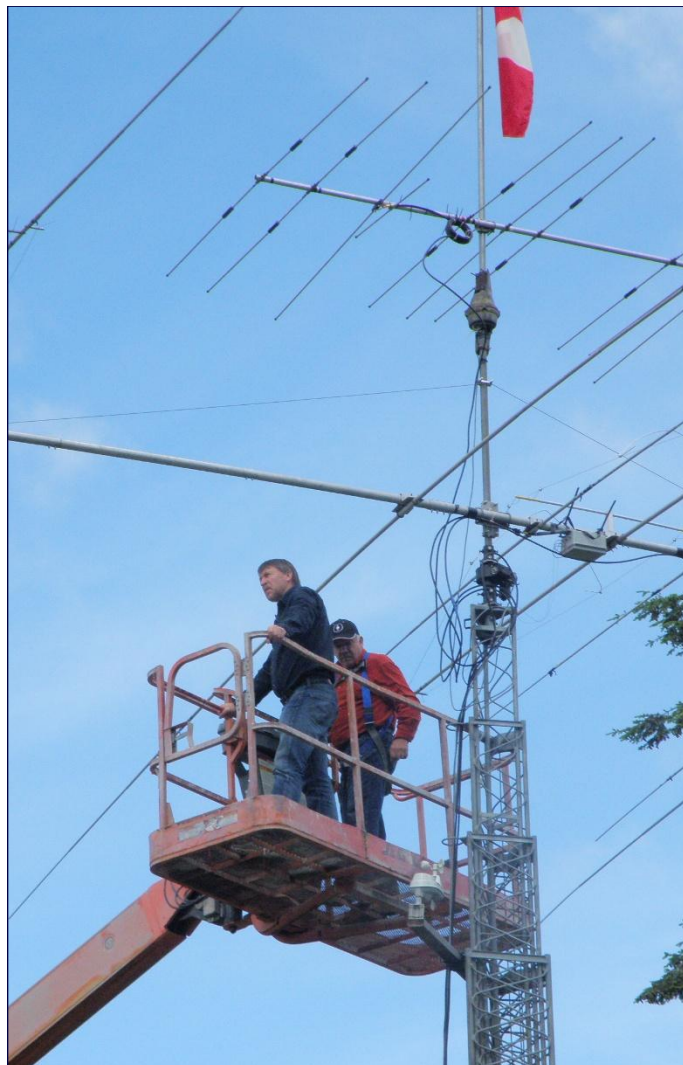
SARC—SEPAR Net Control

It is that time of year again when we start planning the new year of Net Control operations for both the SARC and SEPAR Nets.

If you would like to be a regular Net Control Operator or would volunteer as a back-up or spare, please contact John ve7ti@separs.net

Communicator

Our regular Communicator will begin a new season of publication effective September 1st. Your contributions are always welcome. Please submit content or questions to John ve7ti@separs.net



The SARC Calendar ...all about the Amateur Radio month ahead in Surrey

July–August 2012						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29 	30	31 SEPAR NET 7:30 SARC NET 8:00	1	2	3 Weekly SARC Breakfast 8:30 ABC Restaurant 74th & King George Blvd.	4
5	6	7 SEPAR NET 7:30 SARC NET 8:00	8	9	10 Weekly SARC Breakfast 8:30	11
12	13	14 SEPAR NET 7:30 SARC NET 8:00	15	16	17 Weekly SARC Breakfast 8:30	18
19	20	21 SEPAR NET 7:30 SARC NET 8:00	22	23	24 Weekly SARC Breakfast 8:30	25
26	27	28 SEPAR NET 7:30 SARC NET 8:00	29	30	31 Weekly SARC Breakfast 8:30	1

For details on all SARC events, go to
ve7sar.net

For details on all SEPARS events, go to
separs.net

Contest Details: <http://hornucopia.com/contestcal/contestcal.html>



QRT John Brodie VA7XB

Field Day After-Thoughts

Another Field Day has come and gone. We did much better with our score this year compared with previous years (see the feature on Page 4 of this Communicator) but will it be sufficient to put us in the top spot?

Our performance was mainly a result of having more and better-qualified operators keeping all radios busy over the entire 24 hours, with the focus on CW which brings double points for each contact. I would be remiss if I did not remind everyone that the “better operators” factor was largely a result of the intensive contest training organized and carried out by Fred VE7IO and Jim VE7FO, who together devoted many weekends over the past year to helping the new and less-experienced members improve their skills. The capable operating contribution of new member, Mike VE7ACN made a big impact as well. Brett VE7GM cheerfully and capably took on the ICS planning role even though this was his first FD experience. We had the benefit of the 10-40 m beam lent to us by Jim VE7FO, which gave us a big 40 m signal during the night-time hours when 10 and 15 m shut down. With the poor weather, we did not erect the vee beam this year but instead, relied on dipoles put high into the trees with the antenna launcher. Next year, the 40 m beam will not likely be available to us and so we will have to give careful consideration to the best means of deploying wire antennas for the low bands.

This year we were late in starting our planning and had to scramble, so a few things didn’t go quite the way we hoped. A big contributor to the compromised effort was the nearly incessant rain which, fortunately, stopped for a few hours during the take-down phase. Here are a few ideas that came out of our FD debriefing meeting on July 11th.

- Next year we need to start earlier with our planning, possibly as early as September.
- Despite having the use of a 10-15-20 m beam on a 55 ft. tower, the GOTA station got a limited workout with only a few participants. Next year we should

integrate GOTA into the main op tent and make more of an effort to get commitments from beginners, or abandon it altogether.

- Susan VE7IIE, Anton VE7SSD and their helpers Nicole VE7PET and Arthur VE7SIE did a commendable job with food after agreeing to take on the task with very short notice, but next year we must make the meals a more central part of the event, without relying on those primarily interested in operating
- We need to rethink our approach to publicity, as the turnout from the public and politicians was disappointing, and media attention was absent.
 - The operator training program should be expanded to take on new recruits interested in acquiring HF proficiency.
 - We need to investigate the impact of inverter-generator RF noise and how to reduce it
 - Purchase of another set of bandpass filters would maximize operating productivity
 - We need to pursue whether we can have two operators utilizing a single band simultaneously (i.e. CW and SSB)
- 6m and VHF operation requires a rethink, as we did not make many contacts on those bands
- Purchase of narrow CW IF filters for the Kenwood radios is worth considering as a means of reducing “AGC pumping” from strong adjacent signals
- We must ensure that all available bonus points are earned - we missed bonus points for publicity, alternative energy, young operators, GOTA
- Results from 160 m operation do not likely justify the trouble to set up antennas
- We should consider a FD dress-rehearsal a few weeks before to ensure all details have been sorted out.



Definitely food for thought. Your FD committee will hit the road running early in the Fall.